

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P563338

Luminaire Tested: FSR-24-4-LD4-3LO-40-UNV-81-94-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563338  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/20/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-4-LD4-3LO-40-UNV-81-94-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

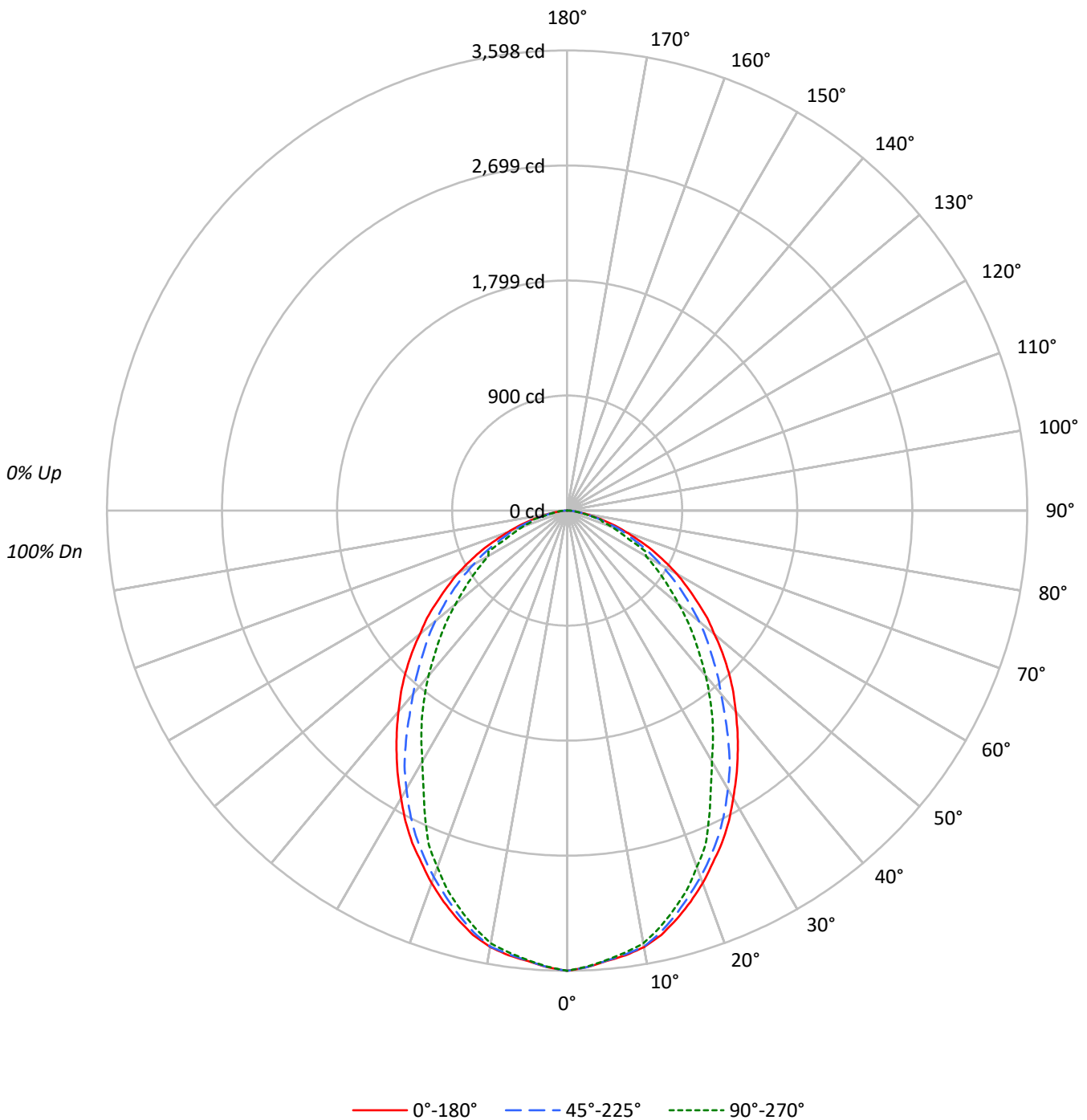
Lumens per Lamp: N/A  
Luminaire Lumens: 7064.0 lumens  
Efficiency: N/A  
Efficacy: 100.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 70.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20									20									
RC	80									70									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100													100															
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87													87															
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75													75															
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65													65															
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56													56															
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50													50															
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44													44															
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40													40															
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36													36															
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33													33															
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30													30															

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4841	4841	4841
5°	4776	4770	4764
10°	4734	4729	4695
15°	4607	4560	4497
20°	4437	4366	4247
25°	4255	4162	3903
30°	4033	3904	3516
35°	3820	3608	3252
40°	3602	3288	2959
45°	3396	3040	2675
50°	3143	2821	2386
55°	2908	2557	2137
60°	2664	2284	1914
65°	2344	2000	1695
70°	1931	1751	1440
75°	1536	1341	1406
80°	1031	967	903
85°	642	770	898

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3396 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	335.0	4.7
10°-20°	919.3	13.0
20°-30°	1272.6	18.0
30°-40°	1357.0	19.2
40°-50°	1238.0	17.5
50°-60°	969.9	13.7
60°-70°	632.1	8.9
70°-80°	280.1	4.0
80°-90°	60.1	0.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	2526.8	35.8
0°-40°	3883.9	55.0
0°-60°	6091.7	86.2
0°-90°	7064.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7064.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3598	3598	3598	3598	3598	
5°	3536	3532	3532	3528	3528	336
15°	3307	3307	3274	3241	3228	930
25°	2866	2850	2804	2704	2629	1316
35°	2325	2309	2196	2030	1980	1454
45°	1785	1747	1597	1464	1406	1375
55°	1240	1202	1090	961	911	1112
65°	736	695	628	641	532	726
75°	295	275	258	245	270	317
85°	42	46	50	54	58	58
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3598.3	3598.3	3598.3	3598.3	3598.3
2.5°	3573.3	3573.3	3573.3	3569.2	3569.2
5°	3535.9	3531.7	3531.7	3527.6	3527.6
7.5°	3506.8	3502.6	3498.5	3494.3	3486.0
10°	3465.2	3465.2	3461.0	3440.2	3436.1
12.5°	3398.6	3394.5	3377.8	3348.7	3340.4
15°	3307.1	3307.1	3273.8	3240.6	3228.1
17.5°	3207.3	3203.1	3161.5	3128.2	3111.6
20°	3099.1	3090.8	3049.2	2995.1	2966.0
22.5°	2978.5	2978.5	2928.6	2857.8	2828.7
25°	2866.2	2849.5	2803.8	2703.9	2629.1
27.5°	2737.2	2712.3	2662.3	2520.9	2433.5
30°	2595.8	2583.3	2512.6	2329.5	2263.0
32.5°	2462.7	2441.9	2367.0	2175.6	2121.5
35°	2325.4	2308.7	2196.4	2030.0	1980.1
37.5°	2188.1	2167.3	2025.9	1892.8	1830.4
40°	2050.8	2025.9	1872.0	1751.3	1684.8
42.5°	1921.9	1888.6	1738.8	1609.9	1535.0
45°	1784.6	1747.2	1597.4	1464.3	1406.0
47.5°	1647.3	1614.0	1476.8	1339.5	1272.9
50°	1501.7	1472.6	1347.8	1210.5	1139.8
52.5°	1381.1	1335.3	1214.7	1077.4	1019.2
55°	1239.6	1202.2	1089.9	960.9	911.0
57.5°	1110.7	1073.3	969.3	848.6	807.0
60°	990.1	936.0	848.6	744.6	711.3
62.5°	856.9	815.3	740.5	653.1	694.7
65°	736.3	694.7	628.1	640.6	532.5
67.5°	603.2	582.4	524.1	465.9	449.3
70°	490.9	465.9	445.1	382.7	366.1
72.5°	391.0	366.1	337.0	303.7	291.2
75°	295.4	274.6	257.9	245.4	270.4
77.5°	203.8	195.5	183.0	170.6	166.4
80°	133.1	129.0	124.8	120.6	116.5
82.5°	79.0	79.0	79.0	79.0	79.0
85°	41.6	45.8	49.9	54.1	58.2
87.5°	25.0	25.0	29.1	33.3	37.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)